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EDITORIAL COMMITTEE

Edward Orton, Junior
Floyd Karker Richtmyer

Henry Baldwin Ward
Samuel Wendell Williston

Address all communications to the Managing Editor, Urbana, Ill.

THE PENNSYLVANIA METHOD

At a time when the discussion of the basis for elections is being carried on with some energy and when each chapter is being asked to prove that it has upheld the ideals of Sigma Xi such a showing as that made in this issue by the chapter at the University of Pennsylvania is sure to command respectful attention and widespread approval. It is to be regretted that all chapters do not lay before the Society at large similar evidence that the full qualifications for membership have been carefully ascertained and demonstrated to the membership of the chapter in advance of elections.

Rightly or wrongly there has been for years a feeling growing in the minds of some members well located to pass judgment and so devoted to the interests of Sigma Xi by the unstinted service of years as to escape the charge of being mere carping critics, that all chapters do not exercise equal care in determining the promise of research ability which alone can justify the selection of new members to Sigma Xi. At any rate they see men and women, at times in graduate schools wearing the emblem of Sigma Xi, who fail to indicate and even disclaim any knowledge of scientific work or interest in it and whose academic records fail to disclose any evidence that these students received more than the merest rudiments of scientific training in college. Can the work of any student in a big elementary class in beginning botany, chemistry, or zoology display real promise of ability in research? Can an undergraduate program which includes the ordinary intellectual hash of first year courses in every science listed in its university catalog, granted that it be carried with a grade of 90 to 95 per cent and garnished with

a mayonnaise dressing of language, literature, and philosophy, indicate to any one a bent for scientific investigation on the part of the student even tho he is registered in a general science course or receives a B.S. degree? The founders of Sigma Xi labored long and hard on this problem and reached a clear conclusion "that the marks given students * * * were not a satisfactory criterion, * * * did not signify the ability of the student to comprehend what he had learned nor his capacity to make original investigations" (History, p. 23). How many chapters can meet the Pennsylvania standard?

TAKING INVENTORY

Any growing organization frequently finds it necessary to take stock of present conditions in order to formulate future policies and thus to determine the extent of future activities. The thoroughness and the sincerity of this inventory is usually an indication of the solidity of the organization. The more rapid the growth the more thorough should the examination be.

In its more than quarter century of existence Sigma Xi has grown in many ways. From a few comparatively isolated centers it has spread until at the present time its extent and influence are nation wide. During this time the larger problems of policy and administration have been dealt with in various ways—by committees and in convention. Many questions, however, some of which are of vital importance, have been studied but briefly. And in some respects we have been like a federation of states, each one a unit in itself, connected rather loosely with the central government. Does not the very magnitude of our society warrant a closer union of the several chapters and a clearer understanding of each other's methods and policies? Just as each chapter is a body of workers, banded together for mutual encouragement and support, so should our national organization be an assembly of chapters mutually helpful, each chapter maintaining its own individuality but appreciating its responsibilities and relations to sister chapters.

Before questions of this kind can be discussed intelligently indeed to determine whether they should be discussed at all, it seems desirable to ascertain present conditions in regard to a number of matters of which the following are examples:

1. What actual work is being done in the several chapters toward furthering the objects of the society as set forth in Art. I, Sec. 2, of the constitution, particularly in the matter of "establishing fraternal relations among investigators"? Are fraternal

relations to be established in a scientific sense only, or in a social sense as well? To what extent are the benefits arising from the various chapter activities extended to the general public? For example are lectures or meetings of general interest open to the public?

2. What is the practice of the several chapters in the interpretation of the qualifications for membership (Art. III, Sec. 4 and 5), particularly with reference to undergraduates? How is promise of marked ability determined?

3. What kind of work is understood to be included under "investigations in science pure and applied"? We are all agreed upon such subjects as chemistry, biology, physics and their technical applications. But how about architecture, efficiency engineering, scientific business management, and the like? Does the following definition of research, as formulated for working purposes in a certain chapter cover the above question: "Ability in scientific research should ordinarily involve (1) skill and initiative in devising suitable methods or apparatus for use in making observations or in securing data; (2) skill in arranging and interpreting data and in formulating generalizations based on them; (3) the logical investigation of a scientific question or group of questions resulting in a substantial addition to the existing body of knowledge."

4. What methods are used in the several chapters in selecting new members and in scrutinizing their qualifications? What are the relative proportions of undergraduates, graduates, faculty and alumni elected each year?

5. Are there any special details of organization in any chapter sufficiently important to bring to the attention of other chapters?

6. What means—if any—are being taken in any chapter to keep in touch with its alumni members? No more important question exists at the present time than that of providing means for preventing this "shameful waste of our natural resources." If our non-resident members maintain an interest in the Society it is in spite of us rather than because of our activities in their behalf.

A statistical study of these and kindred questions will be undertaken in the near future and such results as are of general interest will be reported in the pages of the *QUARTERLY*, not with the idea of formulating a set of requirements to which all chapters must conform—far from it—but to give each chapter the benefit of the experience of the others and thereby to establish "fraternal relations" among the several chapters.

F. K. R.